

Abstract

An image processing system detects a moving person or other object of interest. The system generates a thresholded difference image by processing a video signal or other type of image signal received from a camera. The difference image is then segmented into regions bounded by vertical lines passing through the image, and silhouette candidates are identified in one or more of the regions. Tensor voting is used to determine saliency values and corresponding tangents for each of the silhouette candidates, and the resulting values and tangents are used to detect the object of interest. In an embodiment in which the object of interest is a moving person, a neck position of the moving person may be detected by analyzing a sum of  $x$ -components of tangents along a corresponding silhouette. The detected neck position may then be utilized to determine a head position and a head size for the moving person.

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